

THE ASTROPHYSICAL JOURNAL
CONTENTS OF VOLUME 376, PART 1

1991 JULY 20, Number 1

	<i>Page</i>	<i>Fiche</i>
THE ACCURACY OF GALAXY MASSES FROM THE TIMING ARGUMENT <i>T. L. Kroeker & R. G. Carlberg</i>	1	125-B1
THE DISTANCE TO THE COMA CLUSTER USING THE <i>B</i> -BAND TULLY-FISHER RELATION <i>M. Fukugita, S. Okamura, K. Tsurusawa, H. J. Rood, & B. A. Williams</i>	8	125-B9
THE DISTRIBUTION OF DARK MATTER IN THE PERSEUS CLUSTER <i>C. J. Eyles, M. P. Watt, D. Bertram, M. J. Church, T. J. Ponman, G. K. Skinner, & A. P. Willmore</i>	23	125-C12
LYMAN-ALPHA DEPRESSION OF THE CONTINUUM FROM HIGH-REDSHIFT QUASARS: A NEW TECHNIQUE APPLIED IN SEARCH OF THE GUNN-PETERSON EFFECT <i>Edward B. Jenkins & Jeremiah P. Ostriker</i>	33	125-D9
SUPERCLUSTERS AND PENCIL-BEAM SURVEYS: THE ORIGIN OF LARGE-SCALE PERIODICITY <i>Neta A. Bahcall</i>	43	125-E6
DYNAMICS OF THE MICROWAVE-DECREMENT CLUSTER ABELL 665 <i>William R. Oegerle, Michael J. Fitchett, John M. Hill, & Paul Hintzen</i>	46	125-E10
PRIMORDIAL NUCLEOSYNTHESIS REDUX <i>Terry P. Walker, Gary Steigman, David N. Schramm, Keith A. Olive, & Ho-Shik Kang</i>	51	125-F1
BOUNDS ON THE ENHANCEMENT OF QUASAR COUNTS BY LENSES <i>Israel Kovner</i>	70	125-G8
LINE PROFILES FROM A DISK AROUND A ROTATING BLACK HOLE <i>Ari Laor</i>	90	126-B1
CORRELATIONS BETWEEN FAR-INFRARED, RADIO, AND BLUE LUMINOSITIES OF SPIRAL GALAXIES <i>J. J. Condon, M. L. Anderson, & G. Helou</i>	95	126-B7
RESONANCE EXCITATION OF SPIRAL DENSITY WAVES IN A GASEOUS DISK. II. A NONLINEAR THEORY AND APPLICATION TO THE 3 KILOPARSEC ARM <i>Chi Yuan & Ye Cheng</i>	104	126-C3
ON THE FORMATION OF GLOBULAR CLUSTERS. I. DYNAMICAL LIMITS ON GLOBULAR CLUSTER METALLICITIES <i>J. H. Brown, A. Burkert, & James W. Truran</i>	115	126-D1
INTERSTELLAR SCATTERING EFFECTS ON THE DETECTION OF NARROW-BAND SIGNALS <i>James M. Cordes & T. Joseph Lazio</i>	123	126-D10
ANATOMY OF THE BARNARD 5 CORE <i>G. A. Fuller, P. C. Myers, W. J. Welch, P. F. Goldsmith, W. D. Langer, B. G. Campbell, S. Guilloteau, & R. W. Wilson</i>	135	126-E10
THE MULTIPLE-SHELL STRUCTURE OF THE PLANETARY NEBULA NGC 6751 <i>You-Hua Chu, Arturo Manchado, George H. Jacoby, & Karen B. Kwitter</i>	150	126-F13
MODEL ATMOSPHERES AND X-RAY SPECTRA OF BURSTING NEUTRON STARS <i>Jerzy Madej</i>	161	127-A4
THE WHITE DWARF MASS DISTRIBUTION IN CLASSICAL NOVA SYSTEMS <i>Hans Ritter, Michael Politano, Mario Livio, & Ronald F. Webbink</i>	177	127-B10
GRAVITATIONAL REDSHIFT FOR THE PLEIAD WHITE DWARF LB 1497 <i>Gary Wegner, I. Neill Reid, & Robert K. McMahan, Jr.</i>	186	127-C6
THE EQUILIBRIA AND EVOLUTIONS OF MAGNETIZED, ROTATING, ISOTHERMAL CLOUDS. V. THE EFFECT OF THE TOROIDAL FIELD <i>Kohji Tomisaka</i>	190	127-C11

	Page	Fiche
ON TURBULENT DIFFUSION OF MAGNETIC FIELDS AND THE LOSS OF MAGNETIC FLUX FROM STARS <i>Samuel I. Vainshtein & Robert Rosner</i>	199	127-D7
ROTATIONAL EVOLUTION OF SOLAR-TYPE STARS. I. MAIN-SEQUENCE EVOLUTION <i>K. B. MacGregor & M. Brenner</i>	204	127-D13
A POWERFUL LOCAL SHEAR INSTABILITY IN WEAKLY MAGNETIZED DISKS. I. LINEAR ANALYSIS <i>Steven A. Balbus & John F. Hawley</i>	214	127-E11
A POWERFUL LOCAL SHEAR INSTABILITY IN WEAKLY MAGNETIZED DISKS. II. NONLINEAR EVOLUTION <i>John F. Hawley & Steven A. Balbus</i>	223	127-F8
STEADY SPHERICAL HYPERCRITICAL ACCRETION ONTO NEUTRON STARS <i>John C. Houck & Roger A. Chevalier</i>	234	127-G6
THE X-RAY PROPERTIES OF GX 301-2 (4U 1223-62) <i>F. Haberl</i>	245	128-A5
OPTICAL EMISSION ENHANCEMENTS IN Be STARS <i>Krishna M. V. Apparao</i>	256	128-B3
ON THE ORBITAL CIRCULARIZATION OF CLOSE BINARIES <i>Itzhak Goldman & Tsevi Mazeh</i>	260	128-B8
TOMOGRAPHIC SEPARATION OF COMPOSITE SPECTRA: THE COMPONENTS OF THE O-STAR SPECTROSCOPIC BINARY AO CASSIOPEIAE <i>William G. Bagnuolo, Jr., & Douglas R. Ries</i>	266	128-C1
ULTRAVIOLET VARIABILITY OF THE MASSIVE W-R BINARY SYSTEM HDE 311884 = WR 47 <i>Gloria Koenigsberger, Anthony F. J. Moffat, & Lawrence H. Auer</i>	272	128-C9
OBSERVATIONS OF SCORPIUS X-1 WITH IUE: ULTRAVIOLET RESULTS FROM A MULTIWAVELENGTH CAMPAIGN <i>S. D. Vrilek, W. Penninx, J. C. Raymond, F. Verbunt, P. Hertz, K. Wood, W. H. G. Lewin, & K. Mitsuda</i>	278	128-D1
MASS LOSS IN THE 96 DAY BINARY UU CANCRI <i>Joel A. Eaton, Douglas S. Hall, & R. Kent Honeycutt</i>	289	128-E1
SHOT MODEL PARAMETERS FOR CYGNUS X-1 THROUGH PHASE PORTRAIT FITTING <i>James C. Lochner, J. H. Swank, & A. E. Szymkowiak</i>	295	128-E9
SMM/HXRBS OBSERVATIONS OF CYGNUS X-1 FROM 1986 DECEMBER TO 1988 APRIL <i>R. A. Schwartz, L. E. Orwig, B. R. Dennis, J. C. Ling, & W. A. Wheaton</i>	312	128-G1
MAYFLOWER MINE 1500 GV DETECTOR: COSMIC-RAY ANISOTROPY AND SEARCH FOR CYGNUS X3 <i>D. J. Cutler & D. E. Groom</i>	322	128-G12
AN INFRARED/OPTICAL INVESTIGATION OF 100 MICRON "CIRRUS" <i>Elizabeth S. Paley, Frank J. Low, John T. McGraw, Roc M. Cutri, & Hans-Walter Rix</i>	335	129-A13
MAGNETOHYDRODYNAMIC TURBULENCE DISSIPATION AND STOCHASTIC PROTON ACCELERATION IN SOLAR FLARES <i>James A. Miller</i>	342	129-B11
THE PHASE MIXING OF ALFVÉN WAVES, COORDINATED MODES, AND CORONAL HEATING <i>E. N. Parker</i>	355	129-C11
ON THE EVALUATION OF THE FERMI-DIRAC INTEGRALS <i>Robin P. Sagar</i>	364	129-D8
ERRATUM <i>CONFORMALLY SYMMETRIC SPHERES IN THE THIN WALL APPROXIMATION: ERRATUM</i> <i>L. Herrera, J. Ibáñez, & A. Di Prisco</i>	367	129-D12
ABSTRACTS OF THE ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES, 1991 AUGUST THE CASE LOW-DISPERSION NORTHERN SKY SURVEY. XII. A REGION IN SOUTHERN CANES VENATICI <i>Peter Pesch, N. Sanduleak, & C. B. Stephenson</i>	368	129-E1
AN X-RAY AND RADIO STUDY OF STEEP-SPECTRUM RADIO SOURCES. II. FOUR FIELDS FROM A 22 MHz POLAR CAP SURVEY <i>P. E. Dewdney, C. H. Costain, I. McHardy, A. G. Willis, D. E. Harris, & C. P. Stern</i>	368	129-E1
OPTICAL SPECTROSCOPY OF MAGELLANIC CLOUD PLANETARY NEBULAE. II <i>Stephen J. Meatheringham & Michael A. Dopita</i>	368	129-E1
FORBIDDEN LINES OF np^2 IONS. II. LINE INTENSITIES <i>John P. Lynch & Menas Kafatos</i>	369	129-E2

1991 AUGUST 1, Number 2

	Page	Fiche
FORMATION OF GALACTIC HALOS FROM SEEDED HOT DARK MATTER <i>Anthony van Dalen & Jens Verner Villumsen</i>	371	131-B1
WINDS, OUTFLOWS, AND INFLOWS IN X-RAY ELLIPTICAL GALAXIES. I. <i>Luca Ciotti, Annibale D'Ercole, Silvia Pellegrini, & Alvio Renzini</i>	380	131-B12
EXTREMELY LOW SURFACE BRIGHTNESS GALAXIES IN THE FORNAX CLUSTER: PROPERTIES, STABILITY, AND LUMINOSITY FLUCTUATIONS <i>Gregory D. Bothun, Christopher D. Impey, & David F. Malin</i>	404	131-D10
THE X-RAY COOLING FLOW IN THE CLUSTER OF GALAXIES AROUND PKS 2354-35 <i>Daniel A. Schwartz, Hale V. Bradt, Ronald A. Remillard, & I. R. Tuohy</i>	424	131-F6
INFRARED AND VISIBLE PHOTOMETRY OF THE GRAVITATIONAL LENS SYSTEM 2237+030 <i>Daniel Nadeau, H. K. C. Yee, W. J. Forrest, J. D. Garnett, Z. Ninkov, & J. L. Pipher</i>	430	131-G1
STABILITY OF NONROTATING STELLAR SYSTEMS. II. PROLATE SHELL-ORBIT MODELS <i>David Merritt & Lars Hernquist</i>	439	131-G13
ARM CLASSIFICATION AND VELOCITY GRADIENTS IN SPIRAL GALAXIES <i>A. Biviano, M. Girardi, G. Giuricin, F. Mardirossian, & M. Mezzetti</i>	458	132-B7
GALACTIC DISK WARPS <i>Konrad Kuijken</i>	467	132-C4
VARIABLE SOFT X-RAY EXCESSES IN ACTIVE GALACTIC NUCLEI FROM NONTHERMAL ELECTRON-POSITRON PAIR CASCADES <i>Andrzej A. Zdziarski & Paolo S. Coppi</i>	480	132-D5
X-RAY HALOS AS DIAGNOSTICS OF INTERSTELLAR GRAINS <i>John S. Mathis & C.-W. Lee</i>	490	132-E1
CO (3 \rightarrow 2) MAPPING AND GAS EXCITATION IN THE CORE OF M82 <i>R. P. J. Tilanus, L. J. Tacconi, E. C. Sutton, S. Zhou, D. B. Sanders, C. G. Wynn-Williams, K. Y. Lo, & S. A. Stephens</i>	500	132-E13
VERY SMALL GRAINS AND THE INFRARED COLORS OF GALAXIES <i>G. Helou, C. Rytter, & B. T. Soifer</i>	505	132-F6
PHOTOMETRIC BINARY STARS IN PRAESEPE AND THE SEARCH FOR GLOBULAR CLUSTER BINARIES <i>Michael Bolte</i>	514	132-G1
INHOMOGENEOUS HALO COLLAPSE AND EARLY GALACTIC CHEMICAL EVOLUTION: GLOBULAR CLUSTER METALLICITIES <i>G. Malinie, D. H. Hartmann, & G. J. Mathews</i>	520	132-G9
CAN PHASE SPACE THEORY REPRODUCE EXPERIMENTAL NEUTRAL PRODUCT BRANCHING RATIOS FOR DISSOCIATIVE RECOMBINATION REACTIONS? <i>E. T. Galloway & Eric Herbst</i>	531	133-A8
THE DISSIPATION OF MAGNETOHYDRODYNAMIC TURBULENCE RESPONSIBLE FOR INTERSTELLAR SCINTILLATION AND THE HEATING OF THE INTERSTELLAR MEDIUM <i>Steven R. Spangler</i>	540	133-B5
DISCOVERY OF INTERSTELLAR METHANE: OBSERVATIONS OF GASEOUS AND SOLID CH ₄ ABSORPTION TOWARD YOUNG STARS IN MOLECULAR CLOUDS <i>J. H. Lacy, J. S. Carr, Neal J. Evans II, F. Baas, J. M. Achtermann, & J. F. Arens</i>	556	133-C9
DENSE CORES IN DARK CLOUDS. VI. SHAPES <i>P. C. Myers, G. A. Fuller, A. A. Goodman, & P. J. Benson</i>	561	133-D1
OBSERVATIONS AND CHEMISTRY OF INTERSTELLAR REFRACTORY ELEMENTS <i>B. E. Turner</i>	573	133-E1
THE SPECTRUM OF NGC 7027 FROM 3080 TO 2630 WAVENUMBERS (3.25-3.80 MICRONS): DETECTION OF NEW ATOMIC AND MOLECULAR HYDROGEN LINES AND NEW CONSTRAINTS ON THE CHEMICAL SIDEGROUPS ON POLYCYCLIC AROMATIC HYDROCARBONS <i>Scott A. Sandford</i>	599	133-G1
NGC 7538 IRS 1: SUBARCSECOND RESOLUTION RECOMBINATION LINE AND ¹⁵ NH ₃ MASER OBSERVATIONS <i>R. A. Gaume, K. J. Johnston, H. A. Nguyen, T. L. Wilson, H. R. Dickel, W. M. Goss, & M. C. H. Wright</i>	608	133-G12

	Page	Fiche
A DOUBLE RADIO SOURCE AT THE CENTER OF THE OUTFLOW IN L723 <i>Guillem Anglada, Robert Estalella, Luis F. Rodríguez, José M. Torrelles, Rosario López, & Jorge Cantó</i>	615	134-A7
MOLECULAR OUTFLOWS ASSOCIATED WITH YOUNG STELLAR OBJECTS IN THE L1641 REGION OF ORION <i>James A. Morgan, F. Peter Schloerb, Ronald L. Snell, & John Bally</i>	618	134-A12
DIRECT VLBI DETECTION OF THE MAGNETOSPHERE SURROUNDING THE YOUNG STAR S1 IN ρ OPHIUCHI <i>Philippe André, Robert B. Phillips, Jean-François Lestrade, & Karl-Ludwig Klein</i>	630	134-B12
TESTING MODELS OF LOW-MASS STAR FORMATION: HIGH-RESOLUTION FAR-INFRARED OBSERVATIONS OF L1551 IRS 5 <i>Harold M. Butner, Neal J. Evans II, Daniel F. Lester, Russell M. Levreault, & Stephen E. Strom</i>	636	134-C6
PROTO-PLANETARY NEBULAE. II. THE SHOCK-HEATED BIPOLAR NEBULAE GL 618 AND M2-56 <i>Robert W. Goodrich</i>	654	134-D12
THE EFFECTS OF THERMAL RADIATION ON SOME GENERAL RELATIVISTIC STELLAR MODELS <i>J. M. Aguirregabiria, J. Ibdñez, A. Di Prisco, & L. Herrera</i>	662	134-E8
TRANSIENT PARTICLE ACCELERATION IN STRONGLY MAGNETIZED NEUTRON STARS <i>Fulvio Melia & Marco Fatuzzo</i>	673	134-F7
NEUTRINO-NUCLEUS INTERACTIONS IN CORE-COLLAPSE SUPERNOVAE <i>Stephen W. Bruenn & W. C. Haxton</i>	678	134-G1
HIGH-TEMPERATURE NEUTRINO-NUCLEUS PROCESSES IN STELLAR COLLAPSE <i>George M. Fuller & Bradley S. Meyer</i>	701	135-A12
THE RRd MASSES REVISITED <i>Norman R. Simon & Arthur N. Cox</i>	717	135-C1
THE EVOLUTION AND CLASSIFICATION OF POSTOUTBURST NOVAE SPECTRA <i>R. E. Williams, M. Hamuy, M. M. Phillips, S. R. Heathcote, Lisa Wells, & M. Navarrete</i>	721	135-C7
SEARCH FOR TeV EMISSION FROM 4U 0115+63 <i>D. J. Macomb, M. F. Cawley, D. J. Fegan, A. M. Hillas, P. W. Kwok, R. C. Lamb, M. J. Lang, D. A. Lewis, P. T. Reynolds, G. Vacanti, & T. C. Weekes</i>	738	135-D12
LUMINOSITY LIMIT FOR ALPHA-VISCOSITY ACCRETION DISKS <i>Edison P. Liang & Amri Wandel</i>	746	135-E8
NONLINEAR INSTABILITY OF THE ACCRETION LINE <i>Noam Soker</i>	750	135-F1
SOLAR GRAVITATIONAL REDSHIFT FROM THE INFRARED OXYGEN TRIPLET <i>James C. LoPresto, Charles Schrader, & A. Keith Pierce</i>	757	135-F11
EVOLUTION TO NONEQUILIBRIUM IN SIMPLE MODELS OF PROMINENCE FILAMENTS <i>Ellen G. Zweibel</i>	761	135-G1
THE INTERACTION OF COLLISIONLESS SHOCKS IN ASTROPHYSICAL PLASMAS <i>P. J. Cargill</i>	771	136-A1
SEISMOLOGY FOR THE FINE STRUCTURE IN THE SUN'S OSCILLATIONS VARYING WITH ITS ACTIVITY CYCLE <i>W. A. Dziembowski & Philip R. Goode</i>	782	136-B1
PARTICLE INJECTION FOLLOWING SOLAR FLARES ON 1980 MAY 28 AND JUNE 8: EVIDENCE FOR DIFFERENT INJECTION TIME HISTORIES IN IMPULSIVE AND GRADUAL EVENTS? <i>M.-B. Kallenrode & G. Wibberenz</i>	787	136-B8
FLARES OBSERVED BY THE NORMAL INCIDENCE X-RAY TELESCOPE ON 1989 SEPTEMBER 11 <i>M. Herant, F. Pardo, E. Spiller, & L. Golub</i>	797	136-C6
A CRITICAL ASSESSMENT OF ELECTRON EXCITATION BETWEEN THE $2s^22p^2$ AND $2s2p^3$ CONFIGURATIONS OF Mg^{+6} <i>A. Burgess, H. E. Mason, & J. A. Tully</i>	803	136-D1
INSTRUCTIONS TO AUTHORS	i	136-D9

